THE
VETERINARY JOURNAL

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Editorials

THE SPECIAL ARMY NUMBER.

OWING to the splendid response to our request for articles bearing upon matters pertaining to the Royal Army Veterinary Corps, it has been found impossible to insert them all in any one Special Number, even if the issue is considerably enlarged. For this reason, as it would be inappropriate to place some of the articles in December, 1926, and to continue the series in January, 1927, we have thought it better to postpone the special issue in order that it may give an enthusiastic start to the New Year. Although the articles are already in print it has been decided that the Special Army Number shall be that of January, 1927; and for this reason we ask our readers to accept our apologies for having made the announcement a little prematurely; giving them the assurance that the perusal of the pages which are to follow is only a pleasure deferred.

"SLINK BEEF."

IT is not often that we publish articles under startling headlines, but the "Abstract from the Press," on page 614, reprinted from *John Bull*, is not by any means an exaggerated description of the result of the want of proper qualified meat inspection which is the vogue in some districts of England at the present time. Every veterinary surgeon in country practice with a cattle *clientèle* knows full well that there

is always a market for cows which are "bad doers," and that they are usually taken away unostentatiously.

With our present want of qualified inspection their sale and the subsequent disposal of their flesh is not at all a difficult task, and it is time the country awoke to the unwholesomeness of the whole business.

All foreign countries are ahead of us, for the system of meat inspection in Europe and America, also in our own Colonies, is all under properly trained veterinary supervision. Is it not strange that we English, who pride ourselves upon our position as the pioneers of matters pertaining to hygiene and health, should in reality be so far behind in a matter of such importance? And in this instance it is not due to the apathy of our own profession, although it is only of recent years that meat inspection has received a special place in the student's curriculum.

John Bull hits the right nail on the head when he says, "The only way to stamp the cursed trade out is to centralise slaughtering in Public Abattoirs, organise a national Veterinary Health Service to provide for adequate inspection, compel the stamping of all meat passed as food for human consumption, and punish with imprisonment anyone found in possession of meat not so stamped."

General Articles

VETERINARY PERSONALITY.

By R. E. ALEXANDER, M.R.C.V.S.,
Weymouth.

GRANTED a reasonable number of animals, not forgetting their owners; a veterinary surgeon; a collection of drugs and instruments; and you possess a veterinary practice.

One of the problems a young graduate often has to face is whether to purchase a practice, or to launch out boldly and hopefully on his own account. Now he can buy all the items enumerated above; all, that is, except the veterinary surgeon and his personality. It is with this personality that I intend to deal, for many prominent veterinarians have told me they do not advise the purchase of a practice. They say that when the influence of the former owner is removed, the whole connection is liable to fall to pieces. Therefore it is worth while to examine and analyse this veterinary personality.

Admittedly the majority of the successful members of our profession are men of pronounced character. This character varies

tremendously. One man is placid, another impetuous, but behind it all is this mysterious force called personality. Paradoxical as it may seem, even their very faults get them on. Take, for instance, a hot-tempered and quarrelsome man, liable to fits of temper at the slightest provocation, yet conducting a large and successful practice. How often you will hear his clients speak like this :—

"Mr. B—— was here last night. He raved somethin' awful because I drenched the roan heifer with turps and sored her mouth. Called me a fool for callin' him out late at night, but bless you! I take no notice of him. He's mighty good with animals. Aye! He's a rare un, is Mr. B——."

This dominant personality is a gift that is not easily copied, even by a good actor. Personally, if I were to emulate the successful Mr. B—— and call my client names for calling me out after curfew, he might not require my services again. The circumstances might be even more tragic, especially if he was a bigger man than I was. But there are certain features that serve one in lieu of personality, so that if a young V.S. finds himself minus this valuable quality, he can obtain it synthetically by adopting certain rules of conduct and certain mannerisms. I will give them in order of importance, taking it for granted that professional ability and keenness for work are already present.

Tact is quite as valuable as professional ability in the management of a practice. Let us take a few incidents in the life of a tactful surgeon.

A dog is brought to the surgery and in the course of conversation its appearance is discussed. "I see you are fond of wolfhounds," says our surgeon. Mark you, he does not state that it is a wolfhound, for behind his pleasant smile of interest is the thought : "Another of these curly-tailed, lop-eared Alsatian-Airedale crosses. They seem to be all over the place." His client beams with gratitude, and thinks what a nice and discerning man Mr. J—— is. On the other hand, she may need a candid opinion, and our tactful surgeon explains that she has been defrauded of five guineas. Later in the day he sees a horse with bowel trouble, and the way he explains that bread is not an ideal food for equines is a revelation. Then he visits Lady M——'s peke, who is quite well and merely overfed. How delicately he intimates that a reduced diet would be beneficial for dear little Pongo. A towel is tied round the aristocratic patient's neck ; James appears with a cup of milk and a silver spoon on a salver, and milk and medicine are administered with due solemnity. Lady M—— smiles approval, and Pongo snorts disgust, bedewing the countenance of his benefactor with mingled milk and medicine in

that inimitable fashion peculiar to pekes. The professional adviser, no whit disconcerted, bows gracefully and retires, simultaneously wiping milky saliva and extract of Cascara Sagrada from his shirt collar. Lastly we follow our friend to the side of a sick cow. The owner is a bluff, red-faced person who roars with laughter at an after-dinner story recounted by his veterinary adviser, and in the cheery atmosphere recovery seems more hopeful.

And now a brief personal experience.

Cow, recently calved, with bowel stasis. Contents of rectum slightly harder than horse-dung. Respiration difficult, owing to abdominal pressure. Died in a few hours.

Similar case a few days later. I inflated udder, having read somewhere of its good effects in similar conditions. Animal almost at point of death, but recovered within a few hours.

I needed tact, however (and I might say my personality is wholly synthetic), in convincing the owner of the last-mentioned animal that I had not made an error in diagnosis. "She hasn't got milk fever," he said in a voice of dull despair.

I agreed, and entered upon a lengthy explanation as to why I had used that procedure. I grew eloquent, indeed, and at intervals my hearer nodded apparent approval. My peroration finished, I was leaving the byre feeling rather pleased at my powers of persuasion, when my client stopped me. "What is it?" I asked. "She hasn't got milk fever," he said mournfully.

It was only the tact of the cow in recovering that saved my reputation.

Leaving tact, we come to patience. This point is so obvious that it need not be elaborated upon, but in passing, I would like to state that one practitioner with whom I came into contact possessed this quality to an extraordinary degree. I have known him spend three hours in dressing the leg of a restive horse in circumstances which prevented it being cast. Having been dragged from a dinner-party at 2 o'clock in the morning, he was clad in full evening dress, which was ruined during the administration of chloral hydrate and milk to the animal. The horse had severed a tendon, falling over a cliff, so that it was a back-aching job, yet he remained perfectly calm and never uttered a profane word.

Lack of space prevents me digressing upon the merits of caution and observation. With regard to the latter, however, I do think that Sherlock Holmes would have made an ideal V.S. Better than Watson, who, after his medical training, might have been less obtuse.

Another asset is the possession of a sense of humour. The lot of the G.P. is a harassing one, and when he is wanted in three places at

once, and the 'phone is ringing, and the consulting room full of people and dogs, he needs all his fortitude. A sense of the ludicrous is invaluable, for in no other profession do people have to do such difficult things in queer positions. I reflected upon this point the other night whilst calving a heifer in a field at 3 a.m. I was lying with my naked stomach pressed against some thistles, in the dim light of a hurricane lamp, with an embryotomy knife clutched in one aching palm; and I thought to myself, "Surely one could not be in a more thoroughly uncomfortable position than this."

I was wrong, for in a few minutes it began to rain heavily. This appealed to my sense of humour, and I smiled wanly, thinking of my student days, when I light-heartedly penned the following words in my notebook: "If the above methods fail, perform embryotomy."

Every day brings a smile if one only looks for it. For example, a stern-faced lady entered the consulting room the other day and asked me if I was kind to animals, if I was qualified, how old was I, and innumerable other questions. I answered politely, and at length she seemed satisfied that she could entrust me with her confidence. I confess by this time I had grown somewhat apprehensive and was pondering on the advisability of calling in a consultant on the yet unknown case.

"Now what can I do for you?" I asked.

The lady hesitated, and then in a sudden burst of confidence said: "I want you to remove some fleas from my guinea pig."

The last feature of our synthetic personality is the cultivation of a mannerism. A colourless personality has little hope of success. It may take the form of a certain method of speech, or even a peculiarity of wearing apparel. In other words, there should be a slight difference in appearance from the man in the street. In theory, one should be able to pick a veterinary surgeon from out of a crowd, though I must admit that in practice most veterinarians look disappointingly like ordinary honest citizens.

And here I must come to a close, being fully persuaded of the humiliating fact that I have not in the least defined that elusive essence, veterinary personality.

SOME MISCELLANEOUS OBSERVATIONS ON THE ANTHELMINTIC VALUE OF CARBON TETRACHLORIDE IN SHEEP.

By R. F. MONTGOMERIE, B.Sc. (Edin.), F.R.C.V.S.
(*Veterinary Adviser, Department of Agriculture, University College of North Wales, Bangor*).

In a previous article (4) the writer gave an account of a study of the toxicity of pure carbon tetrachloride for sheep affected with

liver rot and of the anthelmintic action of the drug towards the common liver fluke. Sheep, advanced cases of that disease, tolerated perfectly doses as large as 50 cc., and dosage with 1 cc. destroyed all mature flukes infesting individuals of weights up to 140 lbs.

Hall and Shillinger (1), (2) and (3) found this drug of high value when directed against blood-sucking strongyles of sheep. In their second paper quoted above they record observations on the treatment of a flock (comprising 15 to 26 sheep) at intervals of three weeks throughout one year. These sheep were infested with stomach and intestinal worms at thecommencement of the trial, and grazed pastures known to give rise to infestation. The dosage employed was 5 cc. of carbon tetrachloride immediately followed by magnesium sulphate. After experiencing the dangers associated with the administration of saturated solutions of the salt it was given in dry form—the fill of a No. 11 hard gelatine capsule. The course of treatment admirably controlled the whole infestation and appeared to eradicate certain species. These sheep weighed from 41 to 118 lbs.

Magnesium sulphate was included in view of the work of Macht and Finesilver quoted by Hall and Shillinger (3). The former authors, " Pointed out that simultaneous administration of magnesium sulphate with other drugs diminishes or prevents the absorption of other drugs, apparently by virtue of the well-known salt action which causes a flow of fluid from the walls of the digestive tract to the lumen and thus inhibits an absorption current in the opposite direction." Hall and Shillinger say, " . . . it would appear that in the case of anthelmintics, and possibly intestinal antiseptics, the simultaneous administration of magnesium sulphate would be valuable, all other things being equal, since such substances are more or less toxic, their systemic effects are not desired, and it is advisable to limit their action to that on the fauna and flora of the digestive tract if possible, leaving the host relatively unaffected." It has been shown that simultaneous administration of magnesium sulphate does not diminish the efficiency of carbon tetrachloride against hookworms in dogs.

The experiments recorded below were conducted with a view to furthering our knowledge of the value and application of carbon tetrachloride as an ovine anthelmintic.

General Routine.—The subjects were prepared for treatment by removal from pasture during the late afternoon of the day previous to dosage. They returned to their grazing immediately after the administration was completed. Pure carbon tetrachloride was given in capsule by means of the simple balling gun already described by the writer (5).

EXPERIMENTS.

Experiment No. 1.

Object.—To test the efficiency of 1 cc. of carbon tetrachloride simultaneously administered with magnesium sulphite against mixed (liver fluke and alimentary nematode) infestation.

Subject.—Welsh Mountain Ewe in poor condition, showing marked symptoms of liver rot, infested (as indicated by fæcal examination) with fluke and nematode worms; weight, 33 lbs.

Dosage.—One soft gelatine capsule containing 1 cc. of carbon tetrachloride immediately followed by one No. 12 hard gelatine capsule filled with dry magnesium sulphate.

Observations.—No toxic effects were seen. The more obvious symptoms of liver rot disappeared after the third day and the ewe appeared brighter and fed better during the twelve days following dosage. The number of liver fluke ova decreased almost to vanishing point, but the count of nematode egg, while somewhat reduced, remained considerable (Table No. I).

Post-Mortem Findings.—A *post-mortem* examination was conducted, immediately after slaughter, on the twelfth day. The liver was cirrhotic and the bile yellow-green in colour. No flukes were found. Thirty-seven worms (*Hæmonchus contortus*) were recovered from the fourth stomach and 242 from the large intestine. The latter were identified, "Majority *Chabertia ovina*, remainder *Œsophagostomum venulosum* and *Monodontus trigonocephalus*."

Comment.—The dosage was fully efficient against the liver fluke, but had only slight, if any, effect on the alimentary infestation. If the simultaneous administration of magnesium sulphate influenced the absorption of carbon tetrachloride, it did not prevent the dose administered exercising its known efficiency against the liver fluke.

Experiment No. 2.

Object.—To test the efficiency of 5 cc. of carbon tetrachloride, administered together with magnesium sulphate, against mixed (liver fluke and alimentary nematode) infestation.

Subject.—Welsh Mountain Ewe, a sister sheep to the subject of the previous experiment, showing similar symptoms, similarly infested; weight, 40 lbs.

Dosage.—Five soft gelatine capsules each containing 1 cc. of carbon tetrachloride, immediately followed by one No. 12 hard gelatine capsule filled with dry magnesium sulphate.

Observations.—Clinical observations as in Experiment No. 1. The number of liver fluke and nematode ova decreased considerably

during the days following dosage and only a very few nematode eggs were found on the eleventh day (Table No. I).

POST-MORTEM FINDINGS.—Twelfth day. The liver was cirrhotic and the bile bright yellow-green in colour. No flukes were found and no worms were present in the abomasum. Twenty-two nematodes were recovered from the large intestine and identified, " 20 *Œsophagostomum venulosum* and 2 *Chabertia ovina*."

COMMENT.—The administration was fully efficient against the liver fluke and highly efficient against the alimentary nematode infestation.

TABLE No. I.

EXPERIMENTS No. 1 AND No. 2.

Results of Fæcal and Post-Mortem Examinations.

Experiment.	Dose of Carbon Tetrachloride.	Number of Ova, per Gramme of Natural Fæces.					Post-Mortem Findings (12th Day).
		Before Dosage.	Days After Dosage.				
			3.	4.	5.	8.	11.	
No. 1	1 cc.	F. 1,333	—	F. 166	F. 100	F. Nil	F. 33	F. None
		N. 2,833	—	N. 3,700	N. 1,700	N. 1,533	N. 1,833	N. 242
No. 2	5 cc.	F. 1,866	F. 4,333	—	F. 266	F. 66	F. Nil	F. None
		N. 866	N. 966	—	N. 333	N. 166	N. 66	N. 22

F.—Liver Fluke. N.—Nematode.

FIELD TRIALS AND FLOCK TREATMENTS.

Through the good offices of the local practitioner, Mr. W. Hall Savage, M.R.C.V.S., an outbreak of alimentary helminthiasis, from which the subjects of the following observations were drawn, was brought within the writer's purview.

SUBJECTS.—Welsh Mountain Ewes and Wethers, lambed in the spring of 1925.

HISTORY.—These sheep spent the summer and early autumn of 1925 on mountain grazing and were moved to lowland pasture towards the end of September. The flock then numbered 426 sheep. Throughout the months of February and March they lost condition rapidly and deaths occurred. Previous to writer's first inspection, April 1st, 1926, 32 had died.

SYMPTOMS.—All members of the flock were in poor condition and some so weak that they could easily be caught in the field. Emaciated in varying degree, their wool was dry and harsh and their

membranes anæmic. Many showed a curious inco-ordination in gait, particularly in the movements of the hind legs. Diarrhœa was generally evident.

DIAGNOSIS.—Helminthiasis was suspected. One of the most advanced cases was slaughtered and examined. Heavy infestation with *Hæmonchus contortus*, together with marked nematode infestation of the large intestine was found. Unfortunately the circumstances under which this examination was made precluded the collection of these parasites for enumeration and identification. It would appear, however, from those collected at a subsequent *post-mortem* examination that *H. contortus*, *T. ovis* and *O. venulosum* were the chief species present.

FIELD TRIALS.

To obtain fairly accurate information as to the efficiency of the line of treatment proposed (dosage with carbon tetrachloride), three field trials were conducted. The subjects of the first two were selected as the most seriously affected members of the flock, and they weighed from 23 to 35 lbs. For the third trial two Shropshire ewes, which had grazed the same lowland pasture and showed obvious symptoms of infestation, were chosen.

FIELD TRIAL NO. 1.

SUBJECTS.—Eight Welsh Mountain Yearlings.

DOSAGE.—5 cc. of carbon tetrachloride in capsule followed by one No. 12 hard gelatine capsule filled with dry magnesium sulphate.

OBSERVATIONS.—No toxic effects were seen. Each of the sheep, with the exception of No. 2, markedly improved in condition during the following four weeks and appeared to be clinically cured. No. 2 was particularly weak at the time of dosage and there being little change after seven days, its destruction appeared advisable. On *post-mortem* examination 30 specimens of *Hæmonchus contortus* were found in the abomasum and 42 other nematodes in the large intestine. These latter were identified, "31 *T. ovis* and 11 *O. venulosum*."

Enumeration of the ova in the fæces samples taken after treatment (see Table No. II) showed a marked fall, almost consistently to a negative count, in the number of Trichuris ova and a very considerable reduction in that of other nematode eggs.

FIELD TRIAL NO. 2.

SUBJECTS.—Four Welsh Mountain Yearlings.

DOSAGE.—5 cc. of carbon tetrachloride in capsule.

OBSERVATIONS.—No toxic effects were seen. Clinically these sheep appeared to be satisfactorily treated. Their improvement was quite as rapid as that of the subjects of the first trial.

XUM

The results of the egg counts (Table No. II), so far as they go, indicate that the dosage was efficient. It would appear that the rate of elimination of ova was less rapid than in the previous trial, but that an approximately similar reduction was eventually effected.

FIELD TRIAL No. 3.

SUBJECTS.—Two Shropshire Ewes, weights 69 and 80 lbs. respectively.

DOSAGE.—5 cc. of carbon tetrachloride in capsule.

OBSERVATIONS.—No toxic effects were seen. Their gradual clinical improvement and the marked reduction of the egg count (Table No. II) following dosage indicated that these two ewes had been efficiently treated.

COMMENT ON THE FIELD TRIALS.

The observations made during the conduct of the first two trials (excepting those on Subject No. 2) showed that the administration of 5 cc. of carbon tetrachloride was efficient anthelmintic treatment of these sheep. A comparison of the results of these two trials suggested that the simultaneous administration of magnesium sulphate did not influence the efficiency of that dose. The inconsistent result obtained in the case of Subject No. 2 was believed to be due to its condition—it being almost *in extremis*—at the time of dosage.

The result of the third trial indicated that dosage with 5 cc. of carbon tetrachloride could be applied in the treatment of the general flock without regard to the variation in weight exhibited by its component individuals.

FLOCK TREATMENTS.

For convenience in dosing, management and observation the flock was divided, the ewes comprising Flock A and the wethers Flock B.

FLOCK A.

SUBJECTS.—150 Welsh Mountain Yearling Ewes.

DOSAGE.—5 cc. of carbon tetrachloride in capsule immediately followed by one No. 12 hard gelatine capsule filled with dry magnesium sulphate.

OBSERVATIONS.—No toxic effects were seen. Two weeks after dosage these ewes travelled several miles by road to their mountain grazing. When the mountain sheep were gathered early in July all these ewes were identified and found to have improved greatly. Inspected when gathered for dipping in September, these 150 sheep were in good condition.

TABLE No. II.

FIELD TRIALS No. 1, No. 2 AND No. 3.

Results of Fæcal Examinations.

Trial.	Subject.	Number of Ova Found, per Gramme of Natural Fæces.									
		Before Treatment.	Days After Treatment.								
			7.		10.		20.		29.		36.
No. 1 Magnesium Sulphate Simultaneously Administered	1	N. 10,900 T. 1,400	N. 2,000 T. 400		N. 200 T. Nil		N. 166 T. Nil		N. 300 T. Nil		N. 233 T. Nil
	2	N. 24,566 T. 200	N. 109,000 T. 850				KIL	LED			
	3	N. 1,133 T. 700	N. 66 T. 66		N. 166 T. Nil		N. 100 T. Nil		N. 133 T. Nil		N. 66 T. 33
	4	N. 1,166 T. 200	N. 100 T. 166		N. 100 T. Nil		N. 66 T. Nil		N. Nil T. Nil		N. 33 T. Nil
	5	N. 1,133 T. 1,300	—		N. 333 T. 200		N. 66 T. Nil		N. 33 T. 33		—
	6	N. 1,166 T. Nil	—		N. 466 T. Nil		N. 233 T. Nil		N. 66 T. Nil		—
	7	N. 833 T. Nil	—		N. 366 T. Nil		N. 133 T. Nil		N. 66 T. Nil		—
	8	N. 800 T. Nil	—		N. 100 T. Nil		N. 33 T. Nil		N. 33 T. Nil		—
No. 2 No Magnesium Sulphate	9	N. 7,300 T. 2,000	N. 2,166 T. 166		N. 733 T. Nil		N. 1,066 T. Nil		N. 100 T. Nil		—
	10	N. 1,133 T. 900	N. 1,066 T. 200		N. 333 T. Nil		N. 66 T. Nil		N. 66 T. Nil		—
	11	N. 3,300 T. 400	N. 2,300 T. 166		N. 766 T. Nil		N. 166 T. Nil		N. 100 T. Nil		—
	12	N. 866 T. Nil	N. 333 T. Nil		N. 266 T. Nil		N. 66 T. Nil		N. 33 T. Nil		—
No. 3 No Magnesium Sulphate.	Shropshire 60 lbs.	N. 29,250 T. Nil	N. 2,333 T. Nil		N. 566 T. Nil		N. 333 T. Nil		N. 300 T. Nil		—
	Shropshire 80 lbs.	N. 6,866 T. Nil	N. 2,833 T. Nil		N. 133 T. Nil		N. 133 T. Nil		N. 66 T. Nil		—

N.—Ova of Nematodes other than those of *Trichuris ovis*.

T.—Ova of *Trichuris ovis*.

XUM

FLOCK B.

SUBJECTS.—222 Welsh Mountain Wethers.

DOSAGE.—5 cc. of carbon tetrachloride in capsule.

OBSERVATIONS.—No toxic effects were seen. These sheep were kept on low ground and improved rapidly. When handled early in August they were in good condition.

COMMENT ON FLOCK TREATMENTS.

Carbon tetrachloride was successfully employed in the treatment of these 372 nematode infested sheep. Since the management of the two flocks was very different the observations on them are not strictly comparable. No evidence was obtained, however, which would indicate that the simultaneous administration of magnesium sulphate influenced the anthelmintic efficiency of the dose of carbon tetrachloride employed.

GENERAL SUMMARY.

Single experiments indicated (1) that simultaneous administration of magnesium sulphate did not interfere with the known efficiency of dosage with 1 cc. of carbon tetrachloride in the treatment of liver rot, and that the double administration had little effect on the alimentary nematode infestation ; (2) that 5 cc. of carbon tetrachloride, administered together with magnesium sulphate, was efficient against mixed (liver fluke and alimentary nematode) infestation, a small proportion of the nematodes only escaping destruction.

Two field trials, the subjects of which were small Welsh mountain sheep, showed that the simultaneous administration of magnesium sulphate did not markedly influence the efficiency of dosage with 5 cc. of carbon tetrachloride in the treatment of mixed alimentary nematode infestation. A third trial, only two subjects, indicated that this dose of carbon tetrachloride may be successfully employed in the treatment of nematode infested sheep of the maximum weights met in the Welsh mountain breed.

The treatment of two flocks, 372 sheep, bore out clinically the findings stated in the preceding paragraph.

It was only necessary to dose these sheep on one occasion. This would indicate that actual infestation had ceased when treatment was undertaken.

DISCUSSION.

These observations serve to emphasise the particular value of carbon tetrachloride as a sheep anthelmintic. They show that it can be used with confidence in the treatment of alimentary helminthiasis of the Welsh mountain breed.

XUM

The general principle that the simultaneous administration of magnesium sulphate enhances the value of carbon tetrachloride is questioned. The writer cannot accept the evidence within his knowledge as indicative of any necessity, or even advisability, of including the former drug, other than for its action as a laxative, in the general use of carbon tetrachloride in sheep.

Hall and Shillinger state that the influence of magnesium sulphate in diminishing or preventing the absorption of drugs simultaneously administered has been demonstrated. They do not specifically mention volatile drugs, nor have they, apparently, considered how this influence may be affected by anatomical and physiological differences manifest in different species. On theoretical grounds alone it would appear very probable that magnesium sulphate simultaneously administered does not influence the absorption of carbon tetrachloride in ruminants, particularly when the two drugs are given in capsule. It is known that gelatine capsules come to rest, and are dissolved, in the dorsal blind sac of the rumen of cattle and sheep. There, we may take it, the two drugs will be liberated at approximately the same moment. The volatile nature of carbon tetrachloride must permit at least a very large portion of the dose administered to reach a site for absorption before the saline has had opportunity to exercise any influence.

Until other evidence is produced it may be accepted that magnesium sulphate need not figure in the treatment of helminthiasis of sheep with carbon tetrachloride. This may be particularly readily accepted in view of the considerable tolerance which these animals exhibit towards this drug.

ACKNOWLEDGMENTS.

1.—The identification of the alimentary nematodes mentioned in this paper was made by Dr. T. W. M. Cameron, of the Institute of Agricultural Parasitology.

2.—Mr. W. Hall Savage, M.R.C.V.S., and the owner of the flock on which most of these observations were made, rendered much service during the conduct of the investigation.

REFERENCES.

1. Hall and Shillinger, *Jour. Agric. Research*, Vol. XXIII, pp. 163-192.
2. Hall and Shillinger, *North Amer. Veter.*, Vol. XI, pp. 31-36.
3. Hall and Shillinger, *Jour. Agric. Research*, Vol. XXIX, pp. 313-332.
4. Montgomerie, *Jour. Comp. Path. and Thera.*, Vol. XXXIX, pp. 113-131.
5. Montgomerie, *Veter. Record*, Vol. VI, p. 842.

XUM

Clinical Articles

PUNCTURE OF AN ABSCESS OF THE POSTERIOR MEDIASTINUM OF THE COW—RECOVERY.*

By J. N. RIES, V.S.

THE subject was five years old, pregnant seven months, previous history not known, for eight days there had been increasing difficulty in swallowing.

After swallowing a certain number of boluses there were regurgitations and part of the material swallowed was thrown up in a semi-liquid state and soaked in stringy saliva. Rumination was not properly performed; the cow ceased to eat and finally threw up pure saliva. She was never swollen up, rumen was depressed and belly empty. Close examination revealed nothing to explain the anomaly. At the level of the heart the probang encountered such a resistance that it would have been rash to try to overcome it. The probang withdrawn revealed neither blood nor exudate, nor alimentary material, nor fœtid odour.

After performing rumenotomy, the hand made out that the lower opening of the œsophagus was as patent as its upper portion; the index finger easily penetrated into a wide and soft infundibulum. At about 10 centimetres there was a raised swelling pressing against the œsophagus at the bottom, a large resistant tumour, *a fresh abscess involving the posterior œsophageal gland*. The abscess was opened with a bistoury concealed in the right hand with the blade flat against the index finger and coming easily to the tumour it was incised without difficulty. A flow of pus escaped which fell into the reticulum, it was well formed and without smell.

Penetration of food into the abscess cavity was to be feared; but whether due to the slope of the œsophagus or that the opening into the abscess was made in a very lucky place, this has not taken place. In a few hours the cow drank and ate, and in a few days had completely recovered.

"The principal *rôle* of the veterinary surgeon is still to be a curer," writes M. Cadiot in the preliminary remarks to the third edition of his treatise on surgical therapeutics. This *rôle* was not entirely fulfilled, and as I had not made the incision into the rumen with necessary care, a gastric fistula resulted.

* *Recueil de Médecine Vétérinaire*, February 28, 1926.

AN UNUSUAL AND FATAL HÆMORRHAGE.

By H. M. WILSON, M.R.C.V.S.,
Cupar, Fife.

In the October issue of THE VETERINARY JOURNAL, Messrs. Wm. G. Forbes and F. D. McKenzie, M.R.C.V.S., record "An Unusual and Fatal Hæmorrhage."

At 11 a.m. one day last week, a client of mine turned out with the rest of his herd, a newly-purchased Ayrshire cow. At 2 p.m. on the same day the cattleman reported that the new cow was dead and that there were quantities of clotted blood about the field.

On examination, a milk vein was found to be punctured—the hole admitting a small finger. (The milk veins in this cow had been well pronounced.)

As no other cause could be agreed upon, the verdict was given that one of the more aggressive members of the herd was the culprit; although, after making a careful examination, no blood stains were found on any of the animals' horns.

UNUSUAL INJURIES TO A DOG.

By H. KIRK, M.R.C.V.S.,
London, W.1.

In the October issue of THE VETERINARY JOURNAL I was interested to read Capt. Dunlop Martin's account of somewhat extraordinary injuries to a dog, said to have been inflicted upon it by an Alsatian. It is curious that only the day before the issue of this Journal I should have treated a precisely similar case. In all my experience I have never witnessed such a peculiar injury, and that a similar one should have occurred almost simultaneously is remarkable.

The subject was a cross-bred diminutive Bull Terrier dog, nine years of age. It was found sitting on its owner's doorstep accompanied by two or three other dogs which had been seen escorting it slowly home with much solicitude. I found, upon arrival, an incised wound, skin deep, almost completely round the neck, leaving but a narrow isthmus of sound skin over the trachea. The skin of the body was thus nearly separate from that of the head and neck.

On the left side was a great rent measuring eight inches by five revealing great damage to intercostal and abdominal muscles. On the right side a similar tear existed, extending from the shoulder to the penis. One grain of morphia was immediately given and the dog removed to the surgery. Owing to the pain chloroform anæsthesia was induced prior to cleansing and suturing. But upon close digital examination, deep pockets were found in the muscles which were full of coal dust, gravel and hair; the subcutaneous tissue was shredded, and impregnated with dirt; and the skin was found to be

completely detached from the back. The impossibility of eradicating all foreign matter became apparent, and it was realised that suturing, even with the greatest antiseptic precautions, would have been followed by profuse and prolonged suppuration involving the sloughing away of the sutures, the re-opening of wounds, and probably the great irritability or bad temper of the patient. Consequently the animal was destroyed.

Now this injury was thought by all to have been inflicted by a large dog in the neighbourhood, but I found no evidence to support that idea ; in fact, I cannot conceive how any animal's teeth could have caused the circular wound round the neck. My own theory is that the dog was run over and sustained a glancing blow upon its back which had the effect of tearing the skin apart at the neck and detaching it from the dorsal region.

TREATMENT OF METRITIS WITH PITUITRIN.

By GEORGE DUNLOP-MARTIN, M.R.C.V.S.,
Westcliff-on-Sea.

(*a*) A SIX-YEAR-OLD Great Dane bitch developed a very acute metritis towards the end of her period—which had appeared at the usual time. She is a bitch of great sentimental rather than intrinsic value to her owner, and gave me and her owner some very anxious moments. She was seen by Mr. Stainton in consultation with me, and on his suggestion had pituitrin administered hypodermically. She had 1 cc. injections on three successive days. The metritis quickly cleared up and the bitch made a perfect recovery, having had two normal periods since.

(*b*) A three-year-old Pekinese bitch of 8 lbs. weight also developed an acute metritis, and on being treated with pituitrin in doses of 0.5 cc. every third day, after five doses cleared up and has remained well since.

CYSTIC CALCULI IN THE DOG.

By D. E. WILKINSON,
Class C, Royal Veterinary College, London.

ON the evening of March 3rd, 1925, I received a message to attend an Irish terrier who was apparently in pain. On arrival I was given the following history : The dog, a four-year-old male, in lusty condition, had that day been mated with a bitch for the first time, and had ever since appeared uneasy and had made frequent attempts to micturate, which seemed to distress him.

He certainly had an anxious expression, but his respirations were normal, and he was too resentful of strange handling for his pulse to

be any guide. On attempting to take his temperature per rectum he showed decided signs of local pain, so I proceeded to make a rectal exploration, which, I thought at the time, revealed the source of trouble in a very swollen and painful prostate gland. I considered the condition was probably of a chronic character aggravated by sexual excitement and high condition.

A laxative, 5 grs. of Hydrarg. C. Creta, was given, a hot bath prescribed, and a few doses of Liquid Extract of Hyoscyamus, mv. left to be given at three-hourly intervals.

Next morning the owner rang up to say the dog was much worse and was constantly straining. At my request he brought the animal to my infirmary.

On examination I found the dog in great pain, with his bladder so distended as to show a pear-shaped enlargement through the abdominal walls.

One grain of Morphine Sulphate was at once given hyperdermically and an attempt made to pass a catheter. At the posterior end of the os penis, however, the instrument came in contact with a calculus which completely occluded the urethra.

Placing the dog now in the dorsal position on the operating table, I made an incision into the urethra just posterior to the calculus, and pushed it out through the wound just made, with the catheter. Only a few drops of urine followed, showing further obstruction higher up. An attempt to pass the catheter upwards confirmed this, so I made another incision into the urethra in the perineal region. The effect of this was the expulsion of several small calculi and a little blood-stained urine, which was insufficient to relieve the distension of the bladder.

As that organ now appeared to be in danger of bursting, I resolved to relieve it by puncture through the flank. Cleansing the skin with æther and painting it with iodine, I inserted a fine (No. 2) Trocar and canula beneath the skin at the lower part of the flank, passed it upwards and turned it abruptly inwards to pierce the wall of the bladder in its upper third. On removal of the trocar a jet of blood-stained urine squirted for some distance across the room, carrying with it a number of very small calculi. Of these a teaspoonful was collected later.

The bladder was gently compressed towards the canula in situ in order to empty it as completely as possible, the canula then withdrawn and the small punctured wound again painted with iodine.

The dog, though very collapsed, seemed greatly relieved. A hypodermic stimulant of camphorated oil was given and he was made cosy and warm. The morphia sent him into a profound sleep which

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lasted until evening, when he was fed upon Brands essence of beef, and his rectum emptied by an enema.

Next morning he looked much better and readily fed himself on milk. The catheter was gently passed through the whole length of the urethra to the perineal wound and several small calculi pushed out by it.

A double flow catheter with a rubber syringe attached was passed into the bladder through the perineal wound, and the organ well washed out. 5 grs. of Hexamin were given in solution three times a day, and the dog kept on a milk diet. This treatment was continued for several days and resulted in some calculi being passed on each occasion, whilst others were always found on his blankets, having been carried down by the dribbling of urine.

After a week or so the washing out of the bladder became difficult as the perineal wound was healing and as the dog now passed water in a normal manner, and I could feel no more calculi in the bladder or laxis, I contented myself by passing the catheter daily in order to prevent stricture from adhesions of the healing wounds.

Except for some scalding of the thighs from dribbling of urine, his further progress was uneventful, and he was discharged cured on March 24th, 21 days after admission.

I collected in all enough small calculi to fill a 6 drachm measure glass, whilst others were lost in the kennel and at exercise.

TWO CASES OF INTUSSUSCEPTION IN CANINE PATIENTS.

By FREDERICK HOBDAY, C.M.G., F.R.C.V.S., F.R.S.E.,
Formerly Examiner in Surgery to the Royal College of Veterinary Surgeons, Kensington, W.8.

Two very interesting cases of intussusception have been sent to hospital for operation during the past few weeks and each of them shows features which make the case worthy of being on record.

Case No. 1 was a well-known show foxhound bitch about 4½ years old, belonging to a celebrated pack in the Shires. Her history was that she had had a prolapse of the bowel which protruded for five or six inches, and although returned five or six times had always re-appeared. The veterinary surgeon who had the case in hand stated that, as far as the history was obtainable, the bitch had not shown any sign of violent pain, nor could he detect anything which might be put down as being the cause. Under his instructions the bitch was sent to London by train, and upon arrival it was found that the protruding bowel had got rather badly soiled and was very much inflamed. Temporarily it was returned, but examination showed that it was quite evidently complicated by a prolonged intussusception. Under

an anæsthetic laporotomy revealed the ilium to be intussuscepted into the colon and to have carried with it the cæcum, which was completely everted and so inflamed that the lumen was entirely occluded. The intussuscepted part was altogether about nine inches in length, and its reduction was effected only after considerable manipulation, aided by the injection of warm water per rectum. The suggestion of utilising this enema of warm water was first suggested to me by my partner, Mr. Sutton, F.R.C.V.S., and I cannot speak too highly of the valuable aid which it gives. In this particular instance I managed to unfold the involution of the intussuscepted ilium until it reached the junction of the cæcum and colon, where I found that there were adhesions, and I was only enabled to reach the everted cæcum by performing enterotomy. I therefore opened the bowel and it was then that I found that the cæcum was practically a solid mass. I ligatured and removed this, finding the extremity to be gangrenous. The bowel was sutured in the usual way and the patient made a good recovery from the anæsthetic. On the following day everything seemed to be progressing satisfactorily, but about 36 hours afterwards the bitch suddenly collapsed and died. Personally, I think that, had one been able to operate about 48 hours earlier the case might have had a more satisfactory ending.

Case No. 2 was a well-bred fox terrier puppy (belonging to a brother practitioner) which had been noticed to be getting thinner for about five or six days, with occasional attacks of vomiting and general malaise. When the patient was brought to me on August 15th I could feel, upon manipulation, a distinct sausage-like swelling which was readily diagnosed to be an intussuscepted bowel and we decided that laparotomy was necessary. This was done under an anæsthetic and upon opening the abdomen an intussusception of the ilium into the colon was found extending for about five inches. This was reduced as in the previous case by the aid of an enema of warm water, and here again there was difficulty at the juncture of the ilium and the colon. Adhesions had formed and in attempting to break them down a small rupture was made in the wall of the bowel. This was, however, sutured with fine silk (Lemberts' pattern) and the abdominal wall was closed in the usual way. On the 17th I received a message to say that the little patient was progressing satisfactorily, that " her eye is bright, her nose cold and wet, she is not sick and is being fed entirely on white of egg or Bovinine and barley water; her bowels have moved two or three times and she appears to be quite comfortable." On the 22nd I had another report to say that she was taking a little solid food in the shape of sheep's brains in

addition to previous dietary, and that, with the exception that she was very hungry, there was practically nothing to report. Her convalescence has since been uninterrupted. The particularly interesting part of this case is that even though one has firmly formed adhesions one need not hesitate to carefully break them down or even to open the lumen of the bowel provided there is no gangrene present. In the case of the latter it would be for the surgeon to consider whether it was worth while or not to perform enterotomy.

AN ACHONDROPLASIA-LIKE CONDITION IN THE SHEEP.

By F. A. E. CREW, M.D., D.Sc., Ph.D.,
Animal Breeding Research Department, University of Edinburgh.

I AM indebted to Mr. N. W. Steele-Bodger, M.C., M.R.C.V.S., for the specimen about to be described. It was a pure bred Shropshire twin ram lamb, and was born dead at term time, while its perfectly normal female co-twin was born alive and thereafter thrived. The specimen was peculiar in that its head was grossly abnormal in shape and consistence. The cranium was bulging, the nose depressed, the lower jaw protruding, the upper lip split, and the tongue, thrust far out, curled upwards over the nose. The only other abnormal feature presented by the specimen was a disproportionate development of the buttocks.

The skull, diminished in length and enlarged in width, exhibits marked brachycephaly, the cephalic index being about 100 per cent.; the forehead is bulging and the parietal eminences abnormally prominent. The nasal region is greatly depressed. The bones of the vault are thicker than is usual and, most striking feature of all, the base is extremely short, the component bones being fused into one mass and no suture of any sort being discernible. The foramen magnum, much smaller than is usual, has the shape of an hour glass. There is no hard palate and the nasal portion of the skull is exposed ventrally in consequence of the entire absence of any inward growth of the maxillæ and palatines. The maxillæ are greatly foreshortened as are also the nasals. The abnormalities of the skull are such as affect its posterior fossa and, save for various degrees of asymmetry and for the greater thickness of the vault, the remaining peculiarities are such as would be expected to follow from an abnormality in the ossification of the base. The vertebral column is somewhat shorter than is usual whilst the pelvis was unusually small and misshapen.

The abnormalities exhibited by this specimen are components of the general condition of achondroplasia as encountered in the human subject and in cattle, and which is typically characterised by shortened limbs and base of skull, depressed nose, hare-lip, abnormality

of the hard palate, narrowed foramen magnum, umbilical hernia, anasarca, hydramnios, thickened skin, apparent lordosis, brachycephaly, shortened vertebral column. There are strong reasons for holding that the condition of achondroplasia results from abnormality in the processes of bone formation in cartilage, affecting either the whole of the cartilaginous skeleton or parts thereof. It is the result of a malfunctioning of the agencies which regulate growth. It is commonly agreed that the growth regulating mechanism is in all probability the endocrine system and it can be assumed that the stimulus which brings about the pre-ossification changes in bone formation is an internal secretion, " such as we may expect to arise either in the pituitary, thyroid, suprarenal or genital glands, or by an interaction

FIG. I.

of secretions from all of these " (Keith), and that the cause of achondroplasia is a malfunctioning in time or in kind of one or more of these endocrine glands.

The pituitary of this specimen is smaller than the average hypophysis of a full-time male lamb and is compressed. Its histological organisation, however, is normal. An extract of the posterior lobe, injected into a frog, kept under conditions which are conducive to skin pallor, evoked a rapid and intense darkening of the skin due to a marked expansion of the melanophores. The thyroid shows the typical signs of progressive involution ; the vesicles are enlarged, irregular, and full of colloid, the epithelium low. Throughout the gland there is abundant fibrous tissue. The presence of physiologically

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active iodine in this thyroid was demonstrated by the fact that an axolotl fed with this gland underwent complete metamorphosis in 15 days. No abnormality can be identified in the adrenals and the components of the reproductive system are likewise normal in their anatomy and histology.

If this case is considered alone it is impossible to glean from it much that bears upon the question of its nature and significance. If, however, it is considered along with similar cases in other species, it becomes possible to infer that the condition is that of achonodroplasia (although the limbs are not involved), that it is genetic in origin, being an inherited lethal characterisation, and that it is probably due to

FIG. II.

the fact that the pituitary did not begin to function at the appropriate time so that the ossification processes in the case of the base of the skull and vertebral column were allowed to proceed without the control of the internal secretion of the pituitary. It would follow from this that the ossification of the skull proceeds at a more rapid rate or occurs slightly earlier than does that of the limbs and that at the time of the differentiation of the limbs the pituitary had come into action. The condition of the thyroid can be regarded as a secondary effect of the malfunctioning of the pituitary.

Achondroplasia is rare in those forms in which the standard characterisation, drawn up by the breeder, does not demand a head as broad, or limbs as short as possible. It is rare therefore in the

sheep and this case is of interest mainly in that it shows that in the sheep the hereditary ingredients of anchondroplasia are present and that deliberate selection towards an extreme type of bodily conformation would possibly increase the incidence of what may be called the " bulldog " lamb.

HISTORY OF A GOAT FOLLOWING AN OPERATION FOR NYMPHOMANIA.

By S. A. ASDELL, M.A., Ph.D.
(*Institute of Animal Nutrition, School of Agriculture, Cambridge*).

A CASE of nymphomania in the goat which was successfully remedied by operation was recently described by Hobday and Stainton (1924) in this journal. The goat was described by them as a troublesome nymphomaniac. Laparotomy was performed under chloroform anæsthesia and each ovary brought to the surface in turn. The left ovary contained thirteen follicular cysts which were punctured with a scalpel. The ovary was then massaged and returned to the body cavity. The right ovary contained four external cysts and one internal one. The latter was broken by massaging the ovary, and the former by puncture. This operation was performed in March, 1923. At the beginning of the next breeding season, September, 1923, the goat was mated during her second œstrus. She kidded at term producing two male kids. This record shows that the operation may be followed by fertility.

In the next breeding season, that of 1924-5, the goat was mated on numerous occasions without success, and in the season 1925-6 she again developed into a troublesome nymphomaniac. She was then sent to the Animal Nutrition Institute, Cambridge, and was kept under observation by the writer for six weeks. During this time she would mate with a normal billy at any time, and would constantly allow herself to be ridden by two pseudohermaphrodites which possessed male sexual instincts.

The goat was killed and submitted to a *post-mortem* examination by the writer and by Mr. R. L. Cornell, B.Sc., M.R.C.V.S., for whose help the writer wishes to acknowledge his indebtedness.

The ovaries were adherent to the mesentery and were both cystic. The left ovary was completely invested in a fibrous capsule, while the right was nearly so, two cysts only being exposed.

The fallopian tubes were adherent to the uterus and to the mesentery.

The uterus was somewhat larger than is usual in the non-pregnant goat. The mucosa was enormously hypertrophied, being one to two

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centimetres thick, and cushiony to the touch; on cutting into it a serous fluid exuded. There were oval whitish movable bodies about 0·5 cm. in length embedded in the mucosa, and similar bodies enclosed in bladder-like capsules were found on the outer and inner surfaces of the uterus. Sections of the uterus stained with hæmotoxylin and Van Gieson showed a normal muscular coat with a very thick vascular layer of connective tissue containing glands distended with fluid. The whitish nodules were very vascular, and appeared to be enlarged lymph nodules.

Another nymphomaniac goat from the same herd, examined by the writer showed the same internal characters as were seen in the goat described above, but to a less pronounced degree. This goat was remarkable in that it had never produced young, but came into milk at the age of three months and gave over 220 gallons in the milk recording year 1923-4 and again in 1924-5. There were no signs of corpora lutea in the ovaries.

It seems impossible to decide at present whether the hypertrophied and cystic state of the uterine mucosa was due to the condition of the ovaries, or whether the ovarian condition was due to uterine irritation. It is interesting to compare these cases with that of persistence of the corpus luteum which is usually, if not always, associated with metritis. Here the primary condition is most probably the uterine one, the irritation setting up a hormonal condition similar to that caused by the presence of the fœtus during pregnancy, and thus occasioning the persistence of the corpus luteum.

The question whether ovulation shall occur when ripe follicles are present is decided by the thickness of the ovarian epithelium. When this becomes fibrous, as in these cases, the pressure set up by the secretion of the follicular fluid is insufficient to burst the follicle. The liquor folliculi remains and consequently prolongs the condition of œstrus as it may be absorbed into the blood. The writer recently transplanted ovaries in the rabbit from their normal position on to the inner surface of the abdominal muscle. Here again it was found that if a fibrous investment grew around the whole of the transplanted ovary, ovulation did not occur, while in the ovaries not so surrounded, ovulation succeeded coitus in the normal way.

OPERATION FOR INTUSSUSCEPTION OF THE BOWEL IN THE DOG.

By E. GERTRUDE KNIGHT, M.R.C.V.S.,
Hereford.

THE subject, a male Alsatian puppy, 10 weeks old, had been ill for about a week. Its condition had been mistaken by a layman

for prolapsed rectum, and he had made several attempts to reduce it. Intussusception of the posterior part of the large intestine, with prolapse outside the anus of the intussuscepted part, was diagnosed.

The left flank was chosen for the site of the operation, and an incision about an inch long was made into the abdominal cavity. A swollen mass was felt inside, but on account of its size, it was impossible to bring it through the opening until the incision was extended another inch. When brought outside, the intussusception was found to be complicated by having a loop of large intestine, some distance anterior, drawn into it; so that there were three bowel communications leading into the proximal end of the telescoped mass. By bringing the bowels outside the abdominal cavity, the prolapsed portion was simultaneously drawn back into the body. Gentle pressure was now placed on the rectum by squeezing it immediately behind the distal end of the intussusception. At the same time, steady traction was placed on the three-bowel communication at the proximal end. By this means the imprisoned loop of intestine was released, and the intussusception was gradually and completely reduced. The operation of suturing the abdominal wall was then completed in the usual way.

The puppy made excellent progress afterwards, and made an uneventful recovery.

STRYCHNINE POISONING IN A DUCK.

By E. MORGAN, F.R.C.V.S., D.V.H.,
Venezuela.

THIS case is recorded for more than one reason.

FIRSTLY: Birds are said to be able to cope with large doses of strychnine. To quote from Lauder's Veterinary *Toxicology*, "The dosage for birds is very erratic. Thus Youatt records the administration of a trial of 95 grains of strychnine in 12 weeks to an owl, the dose increasing from $\frac{1}{8}$ to $\frac{2}{3}$ grain, when death resulted." This works out at an average of a little over one grain a day.

SECONDLY: We do not often hear of one animal being poisoned by material which has been vomited by another.

SUBJECT.—A large sized fully-grown drake. A dog was in the habit of coming in at daybreak from the bush to the farmyard and clearing all the eggs from the hens' nests. We decided to mix about two grains of strychnine in an egg and place it in a nest at night. The following morning at daybreak the servant saw the dog come away from the nest and walk directly towards the kitchen yard, but no sooner had he arrived there than he began to tremble and commenced to vomit. When I arrived there, while looking at the dog,

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which had now dropped for the last time, the duck came along and consumed some of this dog's vomit, but no sooner had he commenced than we drove him away. About two minutes afterwards we noticed the duck attempting to swim on dry land towards a pool of water which was about 30 yards away. It went about mid-way and could go no further. I then lifted the bird and placed it gently on the water, where it kept floating like a piece of board, with its legs fully extended backwards, but unable to draw them forward. At intervals he could slightly move the wings. The head and neck were extended and more in line with the body than normally. There was another duck in the pool at the time, and when this one left he made attempts to follow. Rather than leave him there to struggle I took him indoors. At intervals he was able to flutter his wings a little and at the same time the muscles of the jaws were movable, but this was only temporary. I now attempted to give him a small quantity of chlorodyne in castor oil, but found he had hardly any voluntary movements, so I decided to leave him alone. He lasted about 15 minutes from the time he swallowed the poison until he expired. So tense were the muscles during the spasms that it reminded one of a frozen bird inside a freezing chamber.

CASTRATION OF AN AGED MUSCOVY DUCK.

By J. V. S. RUTTER, M.R.C.V.S.,
Hereford.

History.—The keeper of a large ornamental lake brought the bird to me, with the complaint that it was spoiling the appearance of every bird he had got on the lake, by its violent and frequent attempts at copulation.

If I could not curb his ardour by operation, would I destroy him? The man added the information that the duck had severely wounded two of his men in the process of placing him in the large cardboard receptacle in which he arrived at my surgery. I decided to attempt the operation.

Anæsthesia.—This, to me, was one of the most interesting features of the case. The bird was left in his tall cardboard box, the top end (which consisted of wire netting) being covered with two or three stout sacks. A wad of cotton wool was saturated with ℥ii pure chloroform, and dropped into the box. In three minutes the bird showed signs of excitement, and a further ℥ii chloroform on wool was inserted—further excitement, amounting to frenzy, being shown. Five minutes after the second dose, ℥ī chloroform was given as

before, and after another fit of excitement the bird seemed quieter and drowsy. Being still conscious, however, five minutes later ℥ii chloroform was administered as before. One to two minutes later the bird flopped over on to his side, and on extracting him from the box, anæsthesia seemed more or less complete.

OPERATION.—The patient, its legs and wings having been firmly tied, was held by an assistant on its left side on the operating table.

An area of three to four square inches on the right thoracic wall was bared of feathers and disinfected. A two-inch incision was then made between the last two ribs high up as near the spinal column as possible—care being taken to have the legs stretched well backwards (for the same reason as when "spaying" sow pigs).

The edges of the incision—and the last two ribs—were then held apart by caponing retractors. This exposed a sheet of peritoneum, which was incised to reveal the interior of the abdominal cavity. There was now some difficulty in locating the testicles; the assistant having to hold the bird at various angles in mid air in order to get the necessary light into the cavity. At last the right testicle was found resting close to the lumbar vertebrae just behind the right kidney. It was grasped with caponing forceps and removed by torsion. (It proved to be a yellow ovoid body, slightly smaller than a thrush's egg.)

The patient now showing signs of returning consciousness, we replaced him in his box and administered ℥ii chloroform as before. He was soon "under" again, and the operation was continued. Luckily the *left* testicle was seen almost at once, through the original incision. It was obviously larger and darker in colour than the right testicle, and had to be grasped with curved bitch forceps before torsion could be applied. Unfortunately the pressure of the forceps caused the testicle to burst, and only about three-quarters of it was removed—brownish watery pulp—evidently a diseased organ (probably the cause of the "erotomania)." There was very little hæmorrhage throughout the operation. The edges of the incision (involving skin and muscles) were then united by interrupted sutures and the wound painted with Tinct. Iodi.—the patient's legs first being drawn forward into the normal position.

Placed in the open air, the bird soon recovered consciousness and an hour later took some water and a little corn.

SEQUELÆ.—There was no after treatment, and the duck appeared to be making an uneventful recovery. However, three days later we found him dead. *Post-mortem* examination revealed nothing to account for death. (The attendant suggested a broken heart!)

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Abstracts of Current Literature

Poschick, Otto, of Höritz.—On Red Scour of Cattle.—*Prager Archiv. f. Tiermed.*, Jan. 15th, 1926.

Red scour of cattle (*Dysenteria bovis coccidiosa*) is an infectious disease caused by specific coccidia having their situation in the large bowel and rectum and denoted by blood-stained dung and mostly prevalent in autumn. The veterinary surgeon in these parts is only called in to severe cases, the peasants recognising and treating many benign cases themselves. The following are typical cases. Called to a Simmenthaler bullock passing blood in its dung. On examination per rectum soft dung streaked with blood coagula and unclotted blood left on the arm and hand. Syringed the rectum out with one per cent. alum solution which I repeated thrice daily and gave internally one ounce of oak bark and one ounce of prepared chalk, a favourite styptic in Denmark. As diet the best hay and oat mucilage. Two days after the condition was worse. The dung was fluid with a mixture of blood coagula and intestinal epithelial casts were being passed. I syringed the rectum out with two per cent. alum solution and gave tannic acid and tannoform internally. The next day the owner desired slaughter, but I persuaded him to carry on a bit longer, and I put on my considering cap and recognised that astringents per os could exert but little effect on the portions of bowel affected. I therefore made a good rectal infusion of lukewarm camomile tea and by pressing the back down sought to get some of it into the large bowel, and I effected the disappearance of a large quantity of the tea. After a time I let air go in through the sphincter ani and brought about almost complete emptying of the injected fluid. I then blew into the rectum whole clouds of tannoform with Schmitt-Wolfratshavsen's powder blower. This sends in the powder in very fine division and has the effect of coating the gut with a thin layer of tannoform. To keep the heart going I gave 10 ccm. of digitalis pur intravenously and ordered Priesznitzs poultices and straw wispings when changing them. The treatment was repeated for three days, when the animal appeared quite well again, blood passing and tenesmus having disappeared and appetite normal again.

This treatment has proved effectual in six further cases, but it is one that should be carried out by the veterinary surgeon personally and not left to the owner or attendant.

Foot and Mouth Disease and its Treatment with Sterilised Milk.—*By F. Meissner, D.V.M., Kutterschitz.*

Prager Archiv. f. Aug. 15th, 1926, Tiermedizin.

SINCE inoculation with serum in this complaint is very dear, and the stuff seldom handy, I resolved to try the milk treatment. I was induced to do this by reading an article by Wittmer in the " B.T.W.," which was produced in the " Archiv " for September 15th, 1924, and which proclaimed the great advantages of this new method.

When an outbreak of foot and mouth occurred at Meierhof I resolved to try the treatment and will state at once that the result was quite astonishing.

Not only cows, but oxen, bulls and calves were inoculated.

For the inoculations the necessary milk was freshly taken from several cows acutely affected with foot and mouth. It was put in clean sterile vessels then through boiled linen cloths and after cooling and in a lukewarm state subcutaneously injected on both sides of the neck of the animals. The amount given varied according to the size of the animal from 80 to 120 ccm. ; calves, 20 to 40 ccm. After injection all the animals with the exception of the calves were infected with the saliva of sick animals.

With great difficulty we succeeded in getting eight litres of milk from the first eight cows that were ill, although the cows had missed a milking time—a proof of how the flow had declined. Statistics show that the loss of milk in this country in affected animals is 75 per cent. in old milking cows, 55 per cent. in fresh milkers, and 43 per cent. on an average, and that at best the milk supply after an attack only amounts to three-quarters of the pre-sick quantity.

The result is shortly summarised thus :—

(1) The milk supply which, after the illness of the first cows, had declined by 40 litres, showed only a fall of 34 litres three days after inoculation and during the whole period of the illness. Kept up to normal apart from the usual slight variations due to feeding.

(2) There was no loss of flesh, the animals only being off feed for a day and then regaining good appetites.

(3) The claw lesions only needed treatment in such animals which had panaritium before the attack.

(4) Calves born and inoculated during the outbreak (not, however, infected with saliva) did not fall ill. In the uninoculated calves, however, there was a high mortality.

(5) The milk supply of half the cows went up after inoculation. a fourth remained the same, whilst 25 per cent. showed a decline.

[This treatment will perhaps interest veterinarians practising in India and Africa].

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Henry M.—*Recueil de Méd. Vét*, February 28th, 1926.

EVERYTHING has been said a long time ago on the worm of the dog's tongue. In France one hardly ever hears of *éverration* (taking out the worm); but the specimen, shown by M. Henry, was sent to him to determine by a doctor living in *l'Ile de la Réunion* with the note: "Worm extracted from beneath the tongue of a dog; very, very rare here—I have searched for it for years."

Saceghem, Dr. R. Van—Director of the Veterinary Laboratory of the Congo and Ruanda-Urundi.—Aphthous Fever in Belgian East Africa.—*L'Echo Vétérinaire*, Feb., 1926.

THE author has been experimenting with vaccination in this disease. His methods have been (1) to mix aphthous virus with dog's blood, and (2) aphthous virus with human and fowl blood.

1. The aphthous virus (lymph) is mixed with figured elements of the blood of the dog obtained by centrifugation of citrated blood in the proportions of 1 of lymph to 5 of blood. After an hour's contact at ordinary temperature 2/10ths c.c. of this mixture has been inoculated intradermally into the lower lip of 10 animals, furnished from a herd infected with foot and mouth. Animals only have been inoculated which showed no clinical sign of aphthous fever. Eight days after inoculation all the subjects inoculated showed a swelling the size of a pigeon's egg at the place of inoculation. In several animals at the place where the needle of the syringe had been inserted there was a true aphthous lesion; in certain cases this had contaminated the upper lip, at the spot corresponding to the lesion.

All these animals are quite cured and none has shown foot lesions. Placed later on in contact with the affected animals, they do not become infected.

We consider, however, that the inoculation of aphthous virus into the skin of the lips is not advisable; this tissue, in fact, is very sensible to the virus; further, it is very difficult to inoculate the aphthous virus into the lips without infecting the animal by the intestinal tract.

2. The aphthous virus (lymph or virulent serum) is mixed with some figured elements of human blood, obtained by centrifugalization of citrated blood in the proportions of 1 of lymph or virulent serum to 5 volumes of centrifuged blood. After a contact of an hour at ordinary temperature 2/10ths c.c. of this mixture was inoculated into the skin of the scrotum or udder of 30 animals from a herd not infected with foot and mouth. After four or five days in all the animals there was a slight reaction at the place of inoculation. Fifteen days after

inoculation these animals were placed in infected regions with cattle affected with all stages of the malady. None of the inoculated animals has shown the slightest lesion of aphthous fever.

We have conducted a similar experiment on another herd, but instead of using human blood (of a negro district), we used the blood of fowls. As in the previous experience, no inoculated animal has shown the least trace of foot and mouth. Further, placed 15 days afterwards in an infected *milieu*, they have not taken the malady.

Circumstances have not allowed us to control the duration of immunity acquired after inoculation. We can, however, affirm that two months after vaccination the cattle were still resistant to foot and mouth.

Conclusions.—Are these trials conclusive, and do they allow us to affirm that we have discovered an effective vaccination against the malady? No, but they have the advantage of indicating a new method to experimenters and a method which is perhaps very good.

The principle which has guided us is as follows: To vaccinate cattle against foot and mouth it is necessary to inoculate the animals with an attenuated virus, and this inoculation ought to be made into the dermis where diffusion is slow. To attenuate the aphthous virus, mix it with figured elements of the blood of species of animals little sensible (dog, man) or more resistant (fowls) to aphthous fever. These figured elements cannot instantaneously destroy the aphthous virus, but they can attenuate it. We obtain thus a veritable vaccine against foot and mouth.—USUMBURA, *Mar.* 2, 1925.

This study has been communicated to the Belgian Society of Tropical Medicine.

Grobon, M.P.—Contribution to the Study of Tuberculosis of the Domestic Carnivora (Thesis Toulouse).—*Revue Vétérinaire*, June, 1926.

Tuberculosis is frequent enough in the dog and cat which contract the malady directly or indirectly from phthisical men or women, and often from their sick owners. Infection occurs more by the digestive than respiratory tract.

The symptoms shown vary with the localisations: lungs, pleura, larynx, bronchial glands, skin, bones and articulations, etc. Cutaneous tuberculosis is fairly frequent in the cat, where it appears as ulcers on the face similar to the lupus of man. In the dog there is a hidden form of tuberculosis which the general state of the animal does not lead us to suspect, and which is often only revealed at autopsy.

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Animal carriers of tuberculous lesions are dangerous to the people with whom they live in contact. Nasal discharge, pus from the cutaneous ulcers, the excrements or urine in case of intestinal or renal lesions almost always contain tubercle bacilli in abundance. It is therefore important to establish a prompt diagnosis to prevent contagion.

Clinical examination furnishes vague information, seldom exact, and only giving rise to suspicion which cannot certainly be confirmed. In order to be sure, the practitioner must resort to other methods. Diluted tuberculin from the Pasteur Institute used hypodermically only gives positive results in 62 per cent. of cases of canine tuberculosis and in 27 per cent. of feline tuberculosis. Ophthalmo and intradermal reactions give poorer results than those from the subcutaneous test.

Examination for the bacillus in the discharge, expectorations, organic liquids (bile exudates, etc.) often remains negative. On the other hand inoculation of virulent products into laboratory animals, and more especially the guinea pig, more sensible to the action of human tubercle bacilli than the rabbit, gives good results. Further, the reaction of deviation of the complement, practised with Besredka's antigen, appears to be an excellent method of diagnosing tuberculosis of the dog and cat.

Nowag, R.—A Phantom for Instruction in Obstetrics and its Improvement.—*Deutsche Tieraryt Woch.*, May 8th, 1926.

Ever since the middle of last century the veterinary institutes have sought to improve the practical knowledge of the students of obstetrics by exercises on a phantom. As De Bruin observes, no finished obstetrician can be produced in this way. But the use of a phantom helps to instil groundwork instruction as regards many presentations and to illustrate many primitive experiences. Such a course of instruction on a phantom gives a young veterinary surgeon more confidence when he goes to work and teaches him how to overcome difficulties by patience and perseverance. A useful modern phantom should possess the following attributes :—

1. It should approach, as far as possible, natural proportions and be handled in all directions by simple manipulations.

2. The single parts must be easily surveyable so that the manipulations of those practising may be observed by the teacher as well as by the onlooking students.

3. Certain parts of the phantom shall be movably regulated ; the hind part, the womb sac, and the passage must allow of changes in position as they occur in obstetrical cases.

4. The anterior part of the phantom must be made invisible for the practitioner.

5. It is imperative that the whole apparatus be made immovable by fixing to a wall or the ground.

6. The womb sac and vagina must be changed and disinfected each time.

7. Special stress is laid on the strict cleanliness of the whole apparatus and its parts. On this account, single parts are smooth and all corners rounded off.

8. Metal parts are best enamelled white, and wood, as far as possible, avoided. For exhibition of the vagina and uterus, it is best to use strong washable sail cloth.

None of the phantoms hitherto used satisfy all these requirements so Nowag has constructed a new apparatus as described. His phantom, as the model shows, consists of a framework of metal staves and (*a*) cylindrical rings dovetailed into one end (*b*) with rotatable and expandable inner rings ($c_1 c_2$), which make it possible to put the cylindrical rings at different heights and slopes. The imitation uterus (d_2), the birth passage (d_1), and in connection therewith a natural pelvis (*e*), are so introduced into the cylinder rings that they can at the same time be fastened by buckles on to the hinder rings (c_1). With this phantom, demonstrations can be given on the "lying," "standing" and "hind end elevated" animal. Further, one can illustrate another lying on the back and side; one can narrow the vagina and osuteri and demonstrate "torsio uteri." The apparatus may also be used to demonstrate the positions of the fœtus and embryotomy.

Curson, H. H., M.R.C.V.S.—Treatment of Nagana with Tartar Emetic in Zululand in 1921-1923.—From a Thesis for the D.V.M. of Hannover Veterinary School, 1926.

THE author, from his extensive and painstaking researches, arrives at the following conclusions from the treatment of Nagana-sick animals with intravenous injections of tartar emetic :—

1.—The treatment was easy to carry out, cheap, and quite suitable for mass use.

2.—The effect of tartar emetic on a great number of *T. congolense* strains was favourable.

3.—The intravenous injections hinder the formation of local lesions and quickly attack the parasites occurring in the blood.

4.—The treatment apart from isolated cases of shock is not detrimental to the general condition of the sick animals.

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5.—The blood stream and tract were almost immediately sterilised and remained in this state for at least a week. The animal treated, during this time, is ruled out as a source of infection.

6.—Tartar emetic caused animals to recover which were too weak to stand and sometimes effected complete cure.

7.—The method of treatment makes it possible for the sick aminals to survive the " Nagana period " and the winter with its bad pasturage ; the settlers could also use their oxen during the illness.

8.—Tartar emetic diminished the losses in the herds of the Ntambanana settlement from 25 per cent. in the year 1921 to 5 per cent. in the year 1922. In trials conducted in the Nagana Research Laboratory in the year 1922 it was found that the preparation saved the lives of 84 per cent. of cattle affected with *T. congolense.*

9.—The use of the emetic hinders the quick and wide spread of the disease since all treated animals become no longer sources of infection.

10.—The trypanosomes appear not to become easily active against the remedy, but on the contrary they generally undergo a great diminution of virulence.

11.—In the fight against Nagana, in addition to medical treatment, the care and tending of the sick animals plays a marked part in bringing about recovery.

CANCER RESEARCH.

UNDER the auspices of the Tropical Diseases Prevention Association, an appeal is being made in the professional press and the *Morning Post* for funds to prosecute an enquiry into the epidemiological aspect of cancer in man and animals.

A good deal of work has been done in this direction by Dr. Louis Sambon, and an expedition under his direction was sent to Northern Italy last year with the particular object of trying to trace the prevalence of cancer in man and animals in certain districts.

It is now proposed to carry out similar work in Great Britain, and subscriptions, either large or small, with a view to forwarding this work, may be sent to Mr. J. E. Russell, Honorary Treasurer of the Tropical Diseases Prevention Association, and manager of the National Bank Limited, 101-3, Baker Street, London, W.

The appeal appears over the signatures of some 34 names, including those of Lord Aberconway, P.C., K.C., Major E. E. Austen, D.S.O., F.Z.S., Dr. F. A. Bather, M.A., D.Sc., F.R.S., Sir G. Lenthal Cheatle, K.C.B., C.V.O., F.R.C.S., Sir James Crichton-Browne, M.D., LL.D., F.R.S., Sir Sidney F. Harmer, K.B.E., Sc.D., F.R.S., Dr. E. T. Jensen, M.B., M.R.C.S., L.R.C.P., Mr. R. I. Pocock, F.R.S., Sir D'Arcy Power, K.B.E., F.R.C.S., Sir Leonard Rogers, C.I.E., F.R.S., F.R.C.P., F.R.C.S., Sir A. E. Shipley, G.B.E., M.A., Sc.D., F.R.S., Sir W. J. Simpson, C.M.G., M.D., F.R.C.P., Sir D'Arcy W. Thompson, C.B., F.R.S. ; whilst the veterinary profession is represented by Maj.-Gen. Sir John Moore, K.C.M.G., C.B., F.R.C.V.S., and Professor F. T. G. Hobday, C.M.G., F.R.C.V.S., F.R.S.E.

CARIOUS TEETH AND RICKETS.

AN investigation is being carried out by Dr. and Mrs. Mellanby on the analogies of the above in animals and man, and it is requested that any specimens whatever of diseased teeth in animals shall be sent to Mrs. Mellanby at the University of Leeds.

Abstracts from the Press

"CANINE SPECIALIST CASE."

Magistrate's Decision.

Mr. A. E. Gill gave his decision yesterday at the Westminster Police Court on the summons against Edward Sewell, for many years in practice as a veterinary surgeon and canine specialist at Thurloe Place, South Kensington, "for that he not being on the register of veterinary surgeons, and not at the time of the passing of the Veterinary Surgeons Act, 1881, holding the certificate of the Highland and Agricultural Society of Scotland, did use and take the description of 'specialist, canine diseases,' thus suggesting that he was fully qualified to practise a branch of veterinary surgery." Sir Alfred Callaghan appeared for the Royal College of Veterinary Surgeons, and Mr. B. M. Cloutman for the defendant.

The case for the prosecution was that the defendant, not now a member of the R.C.V.S., in submitting an account to a lady for treating her dog in May last, described himself as "specialist, canine diseases," and this, it was contended, contravened Section 17 of the Veterinary Surgeons Act, 1881.

The magistrate, in a considered judgment, said the question was whether the defendant had described himself as "specially qualified to practise veterinary surgery," which was defined as "the act and science of veterinary surgery and medicine." Upon that question there was direct authority in the case of the Royal College v. Collinson, where it was held that the words "canine specialist: dogs and cats treated for all diseases" constituted a statement that the person to whom they were applied was "specially qualified" within the section.

After reviewing a number of cases since decided, the magistrate said he did not think they could be construed as implying that the decision in the case of Collinson had been over-ruled. In the present case, as in that of Collinson, the word "specialist" was incontestably a description of a person, and not of a place or of work done there. For those reasons he was of opinion that whatever might be urged as to the trend of decisions, Collinson's case remained binding on the Court. Therefore he would convict. He imposed a fine of £2 and an order to pay £10 10s. costs, and added, in reply to Mr. Cloutman, that he was prepared to state a case for a higher Court.—*The Times*, November 19th, 1926.

CALF INFECTED BY RETURNED MILK.

Revelations of a County Veterinary Officer.

The chief veterinary officer of the Durham County Council reports

upon what he terms an interesting case from one of the towns of the county.

A calf eight weeks old was sent into the borough for slaughter, and on inspection was found to be affected with the generalised tuberculosis. An inspection of the cows on the premises from which the calf had been sent, revealed two cows affected with tuberculosis. One of them was disseminating tubercle bacilli in her milk, and the other was a generalised case. A third cow was found strongly suspicious of tuberculosis; she is still under detention pending the result of a biological examination of the milk.

The calf, says the officer, had been fed on the milk left over from the milk round, and had doubtless been infected from it. It will thus be seen that milk containing tubercle bacilli had been sold to the public. The case emphasises the necessity for the more frequent taking of samples of milk for bacteriological examination, and also for a regular veterinary inspection of all milk-producing cows in the county area.—*Evening Standard*, November 18th, 1926.

"HOW THE MINISTRY OF HEALTH IS HOODWINKED."

FOLLOWING strong complaints from a Midland area of the appalling amount of diseased and unclean meat sold to the public, a representative of *John Bull* has made a special tour of investigation in that district. His report is a damning one, but it might be applied to many other industrial areas.

Throughout the greater part of the county there is to be found only one district equipped with publicly-owned abattoirs, and even there the abattoirs in question are small, ill-arranged, and defective. They contain no isolation slaughter-house, the cooling-chambers are absurdly inadequate, and there are no lavatories for washing purposes.

Within the boundaries of one city there are 64 privately-owned slaughter-houses, some of which are quite unfit for the use to which they are put.

The very first of these visited was little more than a hovel. True, it had been whitewashed, but it would take more than a coat of whitewash to conceal its structural defects.

Others visited were almost equally unfitted for the work carried on in them, and they were tucked away in obscure corners.

The 64 private slaughter-houses are scattered over 15 towns and districts that are now within the city boundary.

How can the killing of beasts and the dressing of meat that goes on in them be effectively supervised by *two* inspectors, whose duties also include the inspection of all premises where food is manufactured

and stored, and of tripe-dressing places, greengrocers' shops, wholesale fruit stores, cold stores, premises where sausages and meat-pies are made, butchers' shops and so on ?

There is no effective supervision. The medical officer of health realises that ; the members of the City Council should know it, for the health of the people suffers through the consumption of meat and meat products which should have been consumed by the refuse destructor.

Perhaps the authorities satisfy themselves with the thought that what meat is not inspected in the slaughter-houses is inspected in the shops.

No carcase ought to be cut up until it has been inspected with all its organs in position but apart from that, inspection in the shops is no safeguard for poor people who buy direct from a small slaughter-house "on the quiet," at a low price.

Beef is sometimes sold at 3d. or 4d. per pound. Those who sell it alone know its medical history.

It is not suggested that the authorities know uninspected meat is ever retailed from any slaughter-house. They ought to know.

Even the butchers' shops over such a wide area as that referred to cannot be adequately inspected.

Butchers state that they generally know when the inspectors are coming round ; that much meat sold in some shops is never inspected ; and that uninspected meat is even taken into the public meat market after the inspector has been round, and sold to unsuspecting customers.

Some of the meat so sold comes undoubtedly from the obscure slaughter-houses.

Here is one case, vouched for by a well-known butcher. He was at a farm sale on the outskirts of the district where he saw a cow sold for 50s. which, he said, was tubercular "from the tip of its nose to the end of its tail."

It was bought by a butcher and sold to and consumed by the public.

That is not, however, a unique case. It is merely one of hundreds, with the exception that the majority of the diseased beasts that are bought and sold for human consumption do not usually come direct from the auctions.

When they are rejects from a tested herd, as happens in many parts of the country, they are known to be tuberculous, and yet are openly dealt in.

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"Slink" merchants, however, more often work in secret. They buy many carcases from farms where beasts are killed to "save their lives." Here is an example:

A beast was ill on a farm outside this area. The farmer's son was ordered to stay up with it one night, and told that if it looked like dying he must "stick it" in order to draw off its blood. The youth fell asleep.

When he woke up the cow was dead. It was only just dead, however, for he was able to draw some blood. The butcher was sent for, who dressed the carcase in the wash-house and then took all, except some offal, to his shop, where it was sold.

There is another farm—and it seems to be quite common knowledge that it is a place at which animals are butchered for human consumption, although it is not licensed as a slaughter-house. Sausages are also made there.

There are a few farms in surrounding districts that might be described as unlicensed slaughter-houses. There is one that is doing quite a trade in beef.

There is a third farm to which a motor-driver declares that he goes three times weekly for meat which he takes to various butchers' shops.

Occasionally one reads of persons fined for killing beasts intended for human consumption without notifying the local authority.

No decent butcher would kill in defiance of regulations, but where there is small risk of discovery there is a big temptation to unscrupulous farmers to co-operate with equally unscrupulous butchers in the sale of diseased meat.

The only way to stamp the cursed trade out is to centralise slaughtering in Public Abattoirs, organise a National Veterinary Health service to provide for adequate inspection, compel the stamping of all meat passed as fit for human consumption, and punish with imprisonment anyone found in possession of meat not so stamped.

The punishment inflicted by magistrates upon persons caught dealing in diseased meat is absurd.

In 1782 certain bylaws were framed in Naples for the purpose of fighting tuberculosis, and the penalty for obstructing the authorities was three years in the galleys.

In enlightened England in 1926 a Leicestershire butcher who sent seven tubercular quarters of beef to market was fined a paltry £25. The magistrates of Ipswich were even more lenient to a butcher, in whose shop hung joints full of tubercular matter. *He was merely cautioned.*

There were 339,461 cases of tuberculosis in the country last year, and yet we are still interested more in cure than prevention.

It is true that the Ministry of Health occasionally emits an order designed to give us cleaner milk and meat. As we have no effective system of inspection they are worth little more than the paper on which they are printed.—Abstracted from *John Bull*, November 20th, 1926.

Correspondence

To the Editor of THE VETERINARY JOURNAL.

SURRA IN THE CAMEL IN BRITISH SOMALILAND.

DEAR SIR,

For some time I have suspected Surra amongst the camels of this country. In spite of having been on the look out for Trypanosomes, I have failed for two years to demonstrate any.

Last month on a tour in the eastern part of the Protectorate I saw a fair amount of a disease called by the native " Dokan," and in one case demonstrated a Trypanosome, probably the Evansi. I report the finding of this Trypanosome, as though I believe it has been reported in Italian Somaliland, I do not think it has ever been reported in British Somaliland, and is interesting from the point of view of the geographical distribution of the Trypanosome.

Another point is that along with the other rather indefinite symptoms of the disease, vomiting is a very noticeable symptom.

T. A. B. COCKSEDGE.
Veterinary Department,
British Somaliland,
Burao.
October 22nd, 1926.

Reviews

Training the Police Dog. Third Edition. By FRED KOLLET. Chicago: Judy Publishing Co., 1926. Pp. 44. Price 1 dollar.

In a small booklet, Mr. Fred Kollet, the veteran German and American dog trainer, has produced the third edition of his very interesting account of the training and work of the police dog. Here is amply illustrated the effect of scientific principles, patience and kindness in the production of a great asset to the controlling influence of the civil forces of a community. It would appear that the intelligence displayed in the police dog school is of greater quality than that found in some of our most inspired kindergartens. With 20 years' experience in this work, the author writes with confidence. The chapters are arranged in logical sequence, each forming a stage in the dog's five or six months' course. Chapters con-

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cerned with training for companionship, house manners, training for sheep and cattle, are also included. This little book cannot fail to appeal to every member of the profession who is interested in the fascinating subject of animal psychology, and to these Mr. Kollet's little work is confidently recommended in the knowledge that spellings like " fowel " (for fowl) and " bot " (for bought) will be understood.

The Fundamentals of Live Stock Judging and Selection. By ROBERT S. CURTIS, B.S.A. Third Edition, thoroughly revised. London: Henry Kimpton, 1925. Pp. 472. Price 15s. net.

The fact that a book has reached its third edition is more potent evidence of its success than the words of a reviewer. This book was intended primarily for agricultural students, farmers and stockmen, but the present edition caters for a wider public, furnishing practical information for any individual concerned in the selection of live stock.

Many improvements have been made on the previous editions, including the logical grouping of the subject matter to facilitate the study of particular phases in the judging and selection of the various breeds, types and classes.

The first five chapters are concerned with the general principles applicable to the judging and selection of all classes of live stock and form a very useful preliminary to the subsequent chapters, each of which is devoted to a particular stock or type.

An extensive bibliography adds materially to the usefulness of this well-written and profusely illustrated work.

Manuel de Medecine Legale Veterinaire. By ALBERT LHOSTE, Directeur des Abattoirs du Mans Licencié en droit, Lauréat de l'Académie d'Agriculture. Paris: Vigot Fréres. 96 pages. Price 5 francs.

As M. le Professeur Daille says in the preface to this little volume, it is a work for both the veterinary student and the practitioner. It contains in a condensed and easily readable form the medico-legal principles in regard to ante- and post-mortem lesions, signs of death, asphyxiation, wounds, burns, bruises, poisoning, etc. By virtue of the variety and pertinence of the subjects treated, this work will be consulted with profit by every veterinary surgeon who is likely to be called upon in a professional respect to give evidence in a court of law. In producing this work M. Lhoste has made an excellent contribution to a section of veterinary literature which is all too small, and this volume is confidently recommended to every French-reading practitioner.

Le Chat. By LARIEUX and JUMAUD. Pp. 272; 29 illustrations. Published by Vigot Frères, Paris.

IT is strange what scanty attention has been accorded to the cat by the veterinary profession of all countries throughout the years, as judged by the almost entire absence in veterinary literature, until lately, of any work upon feline pathology.

With the gradual passing of the commercial horse, the smaller animals are becoming the subjects of an ever-increasing study; and investigation into their habits and diseases is more general and persistent than has ever before been the case. Thus we welcome with pleasure the advent of " Le Chat," by Larieux and Jumaud, which by a coincidence follows

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so closely upon the publication of a similar but larger volume in England last year.

The new work is divided roughly into two parts, the first comprising history, varieties, anatomy, physiology and hygiene of cats; and the second part dealing exclusively and scientifically with feline maladies.

Whilst a wide range of diseases is touched upon, one must remark how cursorily many of the most important of them are handled. For instance, that most difficult of all matters to many who would attempt it—the administration of medicines—is dismissed in ten lines, whilst aural hæmatoma is disposed of in six.

Oöphorectomy, so frequently performed in this country, is said by the authors to be very rarely practised. They also give the gestation period as 58 days instead of 63. Nearly a page is devoted to chorea. If this disease ever exists in cats it must be extremely rare as we cannot remember having seen a case.

No mention is made of amaurosis, which so frequently depends for its origin upon tuberculosis. Under the heading of diphtheria, however, the authors make the definite statement that this disease of cats is not transmissible to man, for whilst it is always of bacterial origin, it is usually due to staphylococcus albus. This view of its transmissibility is, we believe, the one which is generally accepted to-day.

The figures, 29 in number, and the paper, leave much to be desired, but fortunately the practical usefulness of the book will not suffer on that account.

So far as we are aware, this little volume is the only work devoted sōlely to feline pathology in the French language, and we thus believe it cannot fail to prove of immense help and value to our French colleagues and to all veterinary practitioners who are French scholars.

Report of the Imperial Institute of Veterinary Research, Muktesar, for the year ending March 31st, 1925. pp. 71. Calcutta, 1925.

THE production of sera and vaccines for the prevention and control of the infectious diseases that prevail in India is the chief function of this Institute. Rinderpest and hæmorrhagic septicæmia have comprised by far the greater number of outbreaks. More than 3,000,000 doses of anti-rinderpest serum has been prepared and nearly 2,000,000 issued. Attempts to transmit the disease by flies and mosquitoes have not been successful. The virus is quickly destroyed in the body of the mosquito. Sixty-five structures have been erected where diseased animals can be isolated, and the malady studied. A quick supply of serum both against rinderpest and hæmorrhagic septicæmia is now being provided from the buffaloes of the plains. Bovine coccidiosis frequently runs along with rinderpest, the latter disease seeming to predispose to an attack of the former. Fifty per cent. of cattle are infected with abortion. Buffaloes are less susceptible than improved stock of European blood.

Infectious abortion of mares is very prevalent and prevention is based on sero-diagnosis. Indian cattle are no more resistant to tuberculosis than European breeds, but the open air life the cattle lead and no doubt the prevalence of sunlight keep the disease at a figure perhaps as low as

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three per cent. Foot and mouth disease is still controlled and dealt with as formerly and little progress can be made until research finds better methods.

The work of the Research Institute under Captain J. T. Edwards, B.Sc., M.R.C.V.S., covers a wide field and supplies a vital need, and it is being well done and is ever advancing in the method and system which lead to the effective control and eradication of devastating animal maladies.

Personal

In the columns of our contemporary, *The Journal of the Australian Veterinary Association*, we read of the appointment of DR. W. A. N. ROBERTSON, D.V.Sc.(Melb.) as Director of Veterinary Hygiene in the Department of Health, Commonwealth of Australia. We congratulate our colleague and unite with our fellow editor in the statement which he makes in the September number of his interesting journal, when he writes: "What the position may mean to the profession in Australia is incalculable," and "The appointment is a fitting commentary on the quaint idea that the veterinary profession is dying because a few horses have been replaced by motor cars."

By an error the name of Miss WOODWARD was mention in the biography column of the October issue of the journal as having gained honours in the final examination for the M.R.C.V.S. The honour of gaining this high distinction should have been given to Miss ROBERTS, who graduated at the Liverpool University, and thus accomplished a record which is very rarely obtained by any student. Miss Roberts has commenced canine practice at Wallasey, in Cheshire, and is now proceeding to work for the B.V.Sc. We are indebted to Mr. N. DURRANT, M.R.C.V.S., for having pointed out our error.

The frontispiece of the *Indian Veterinary Journal* contains a photograph of Lieut. FAZUL KARIM, a graduate of the Punjab Veterinary College, who is to be congratulated as being the first Indian graduate to receive a commission as a veterinary officer in the Indian Territorial Force. Mr. KARIM is the Veterinary Assistant Surgeon at Etowah in the United Provinces.

Publishers' Notices

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